



FIG 1
PRIOR
ART

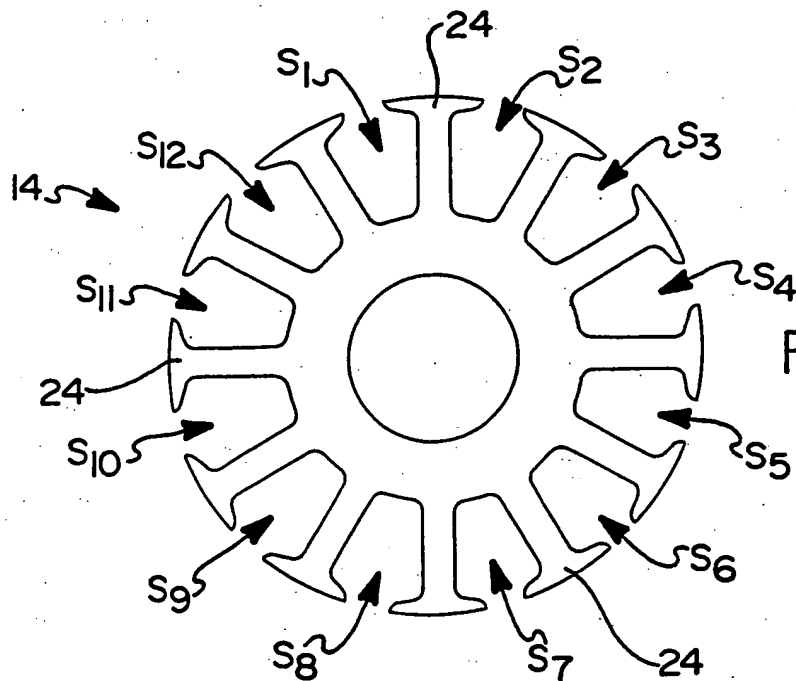
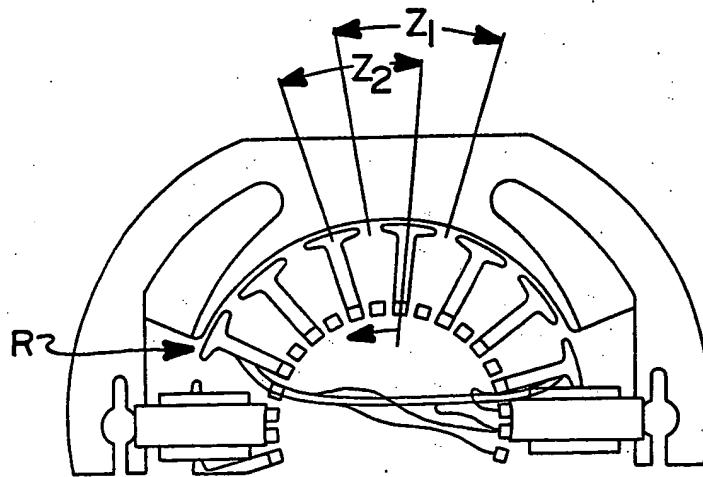


FIG 3

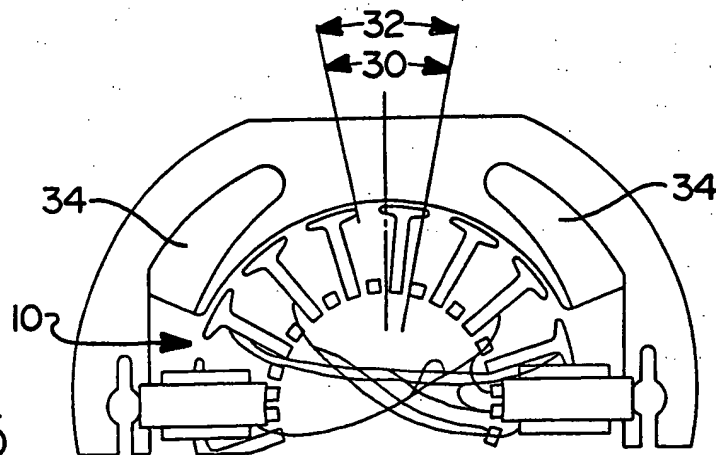


FIG 5

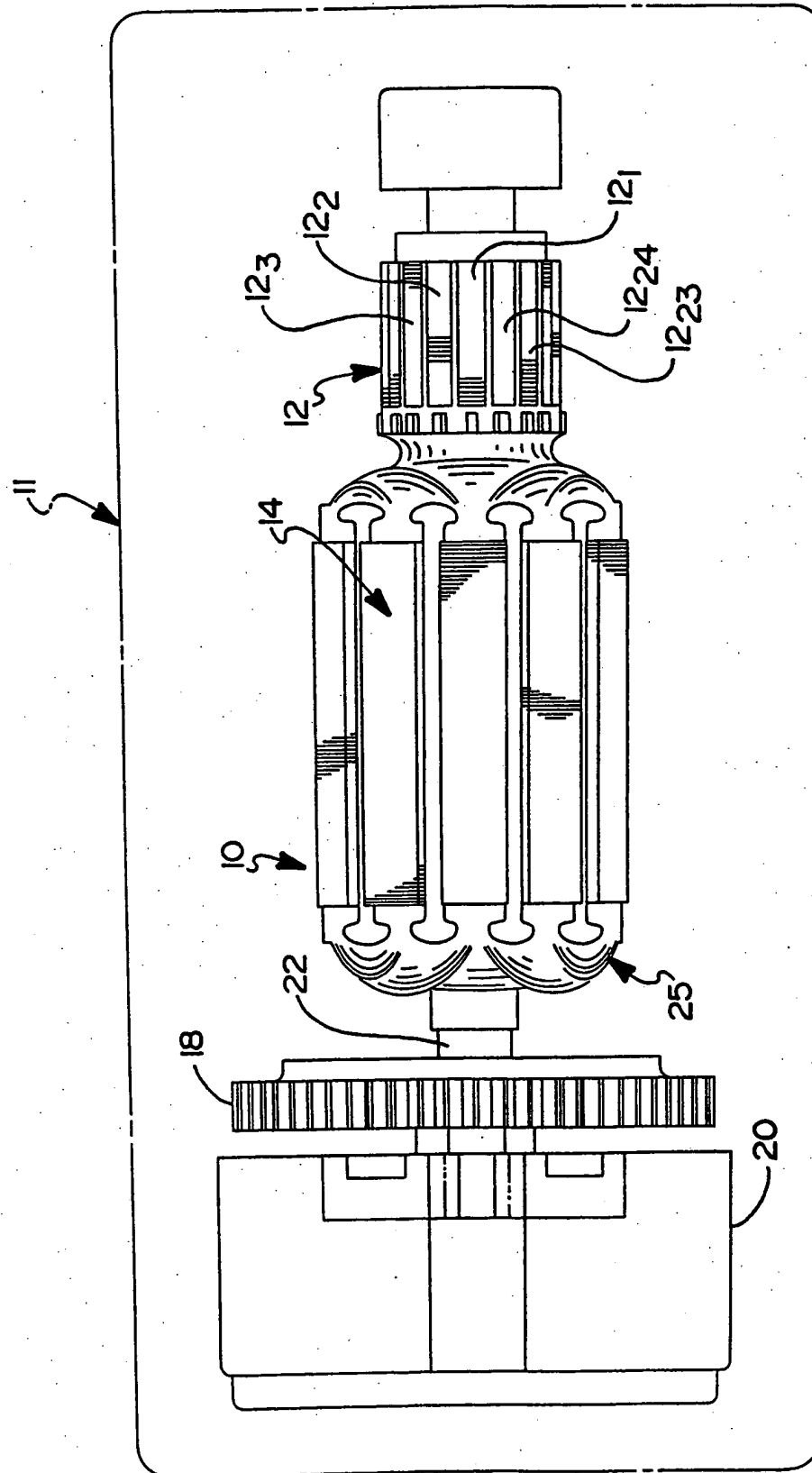


FIG 2

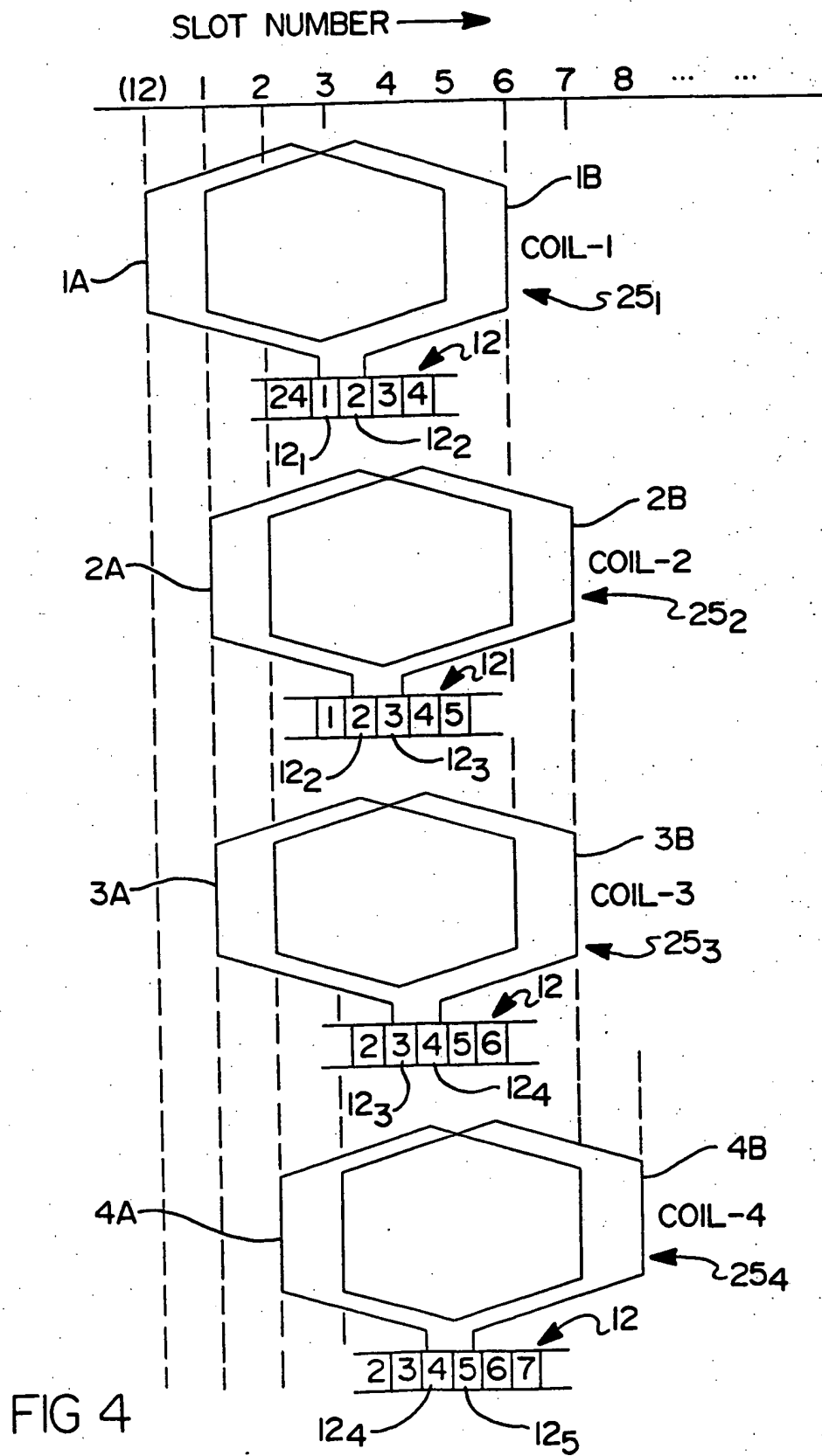
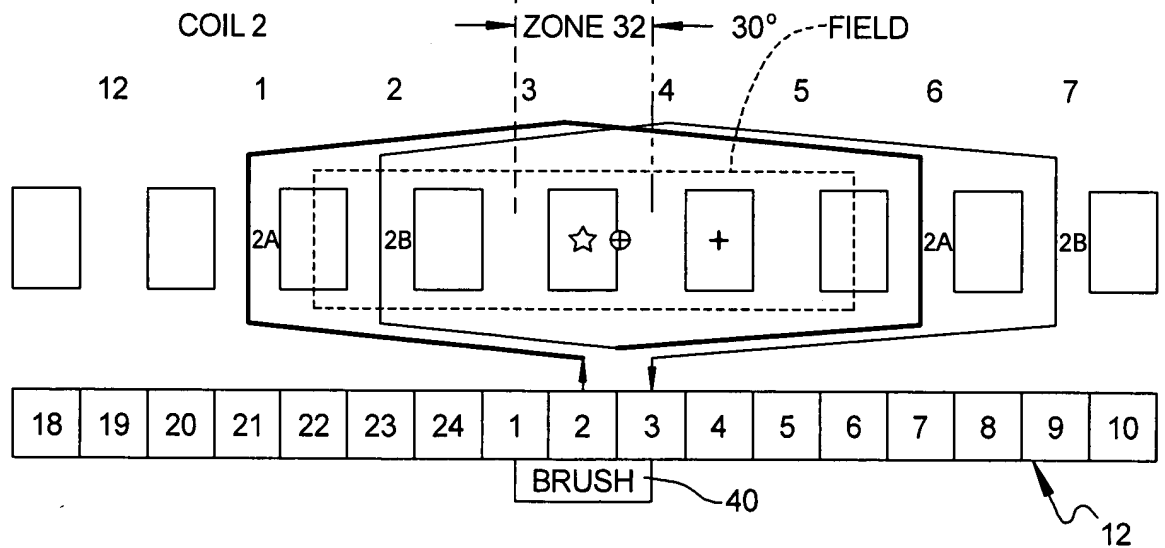
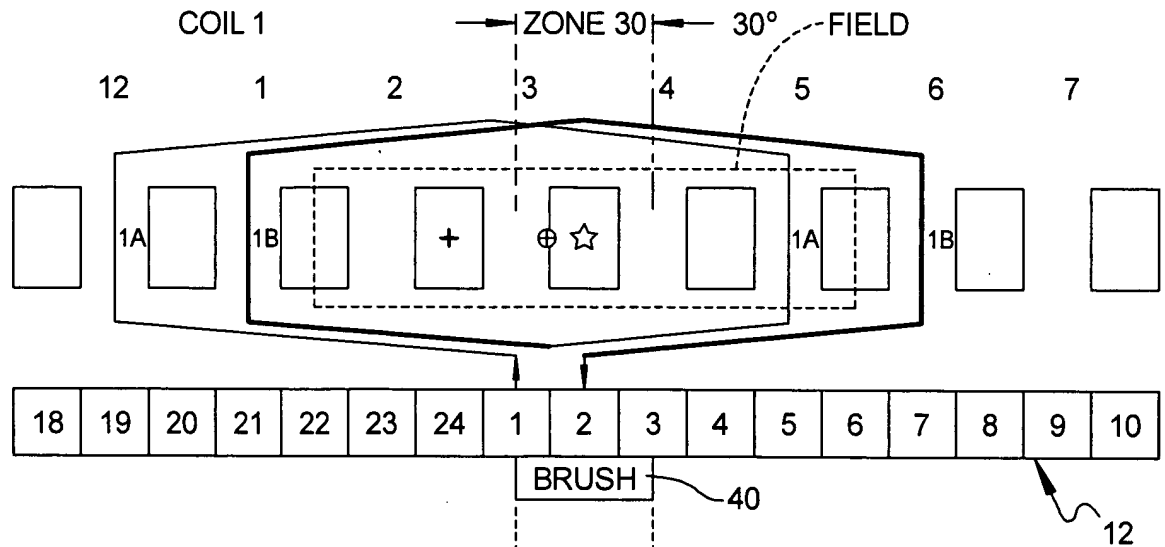


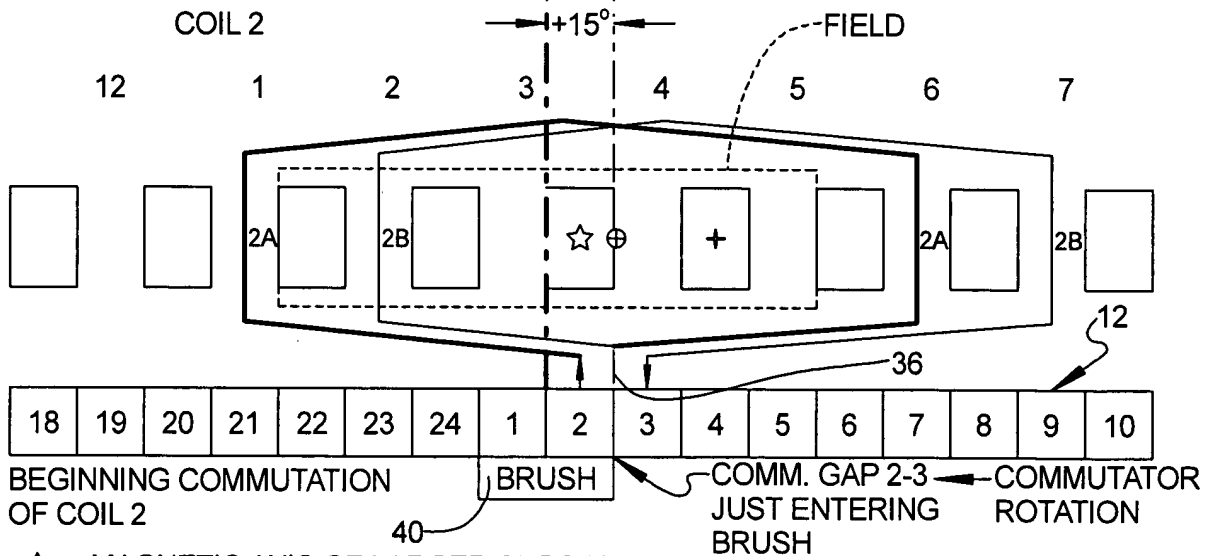
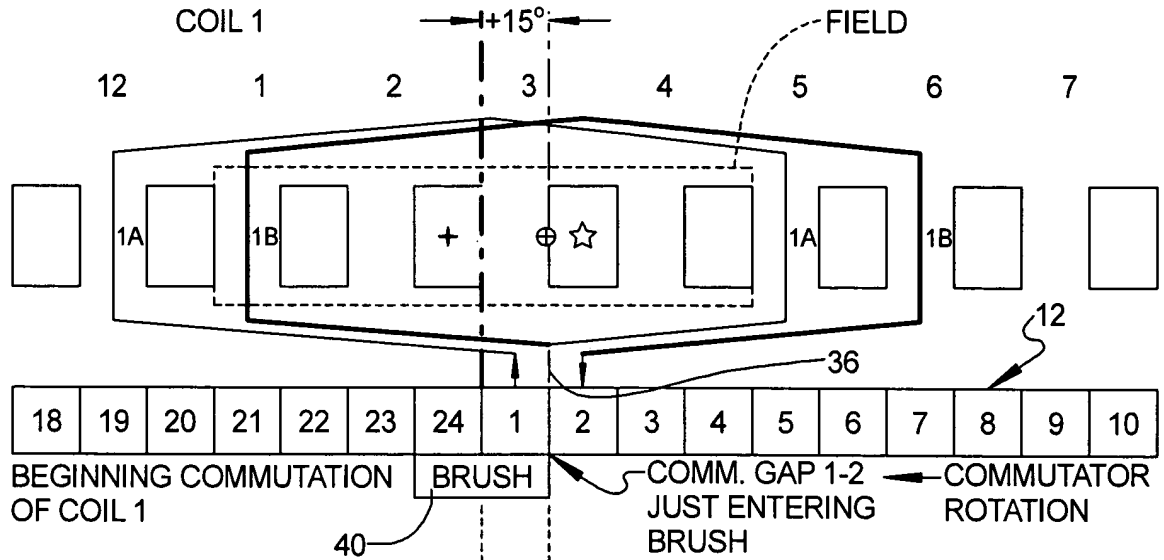
FIG 5A



- ☆ MAGNETIC AXIS OF LARGER SUBCOIL
- + MAGNETIC AXIS OF SMALLER SUBCOIL
- ⊕ MAGNETIC AXIS OF TOTAL COIL (RESULTANT)
- - - - - AXIS OF FIELD POLE AND BRUSH
- - - - - POSITION OF MAGNETIC AXIS AT START OF COMMUTATION
- - - - - POSITION OF MAGNETIC AXIS AT END OF COMMUTATION

FIG 6A

FIG 5B

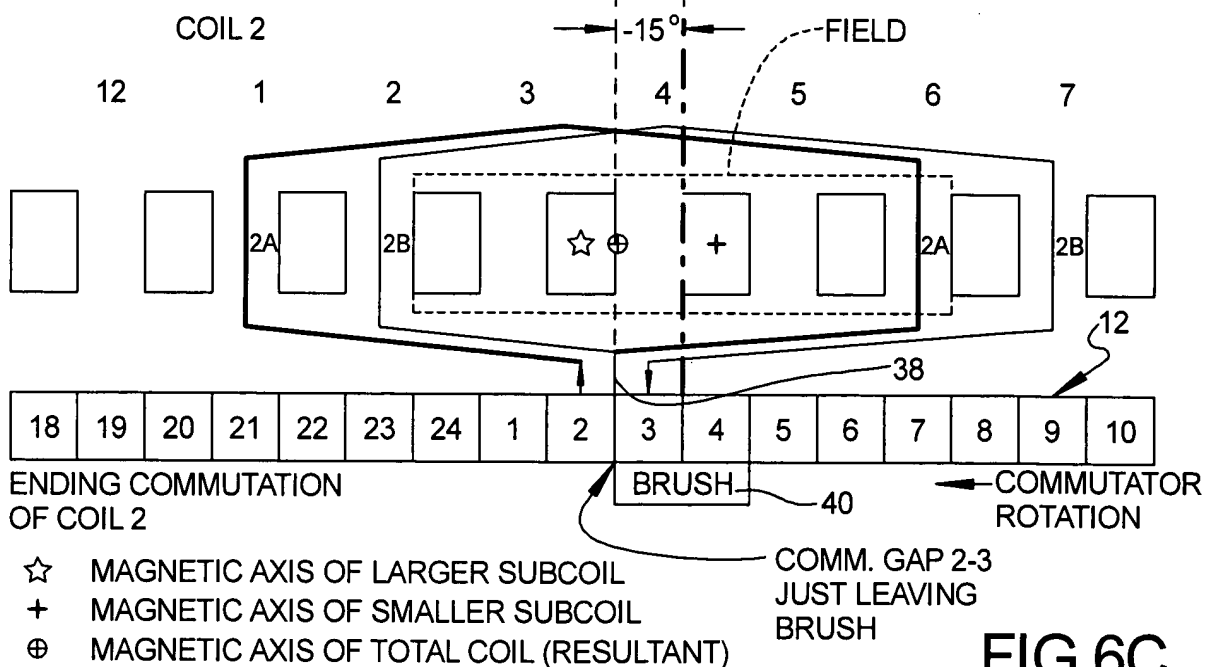
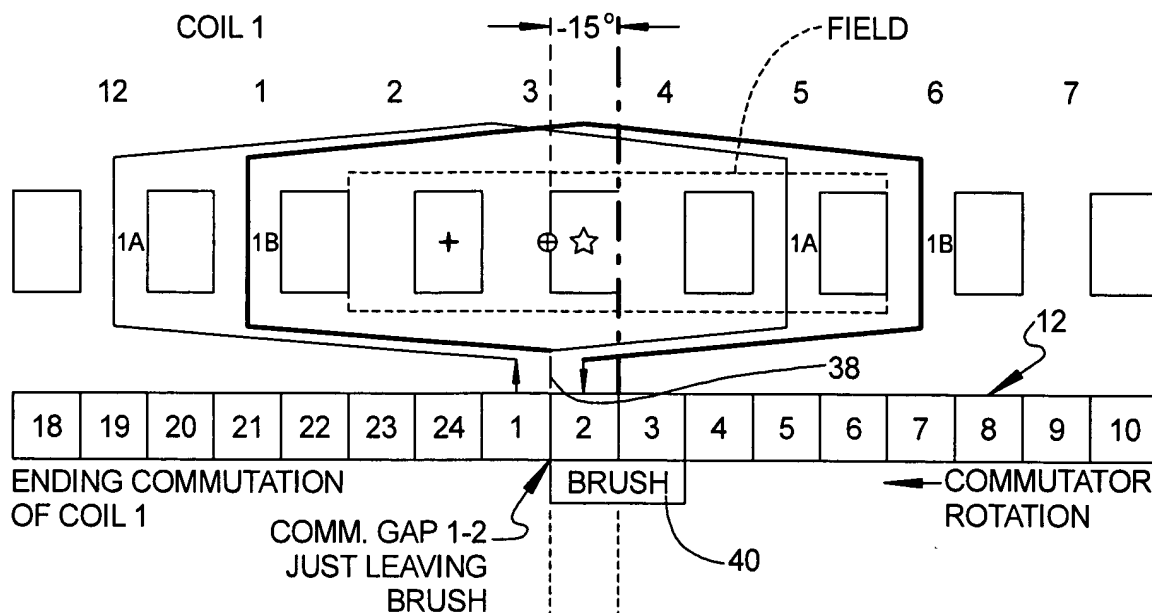


- ☆ MAGNETIC AXIS OF LARGER SUBCOIL
- + MAGNETIC AXIS OF SMALLER SUBCOIL
- ⊕ MAGNETIC AXIS OF TOTAL COIL (RESULTANT)

- — — — — AXIS OF FIELD POLE AND BRUSH
- — — — — POSITION OF MAGNETIC AXIS AT START OF COMMUTATION
- — — — — POSITION OF MAGNETIC AXIS AT END OF COMMUTATION

FIG 6B

FIG 5C



- ☆ MAGNETIC AXIS OF LARGER SUBCOIL
- + MAGNETIC AXIS OF SMALLER SUBCOIL
- ⊕ MAGNETIC AXIS OF TOTAL COIL (RESULTANT)

- — — — — AXIS OF FIELD POLE AND BRUSH
- — — — — POSITION OF MAGNETIC AXIS AT START OF COMMUTATION
- — — — — POSITION OF MAGNETIC AXIS AT END OF COMMUTATION

FIG 6C